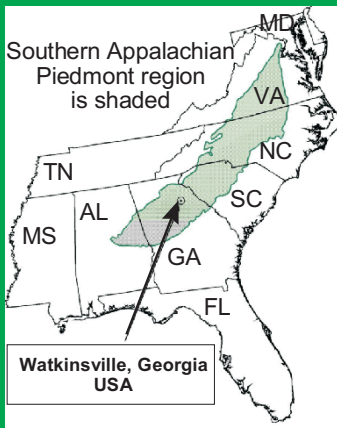




## Agricultural Research Service



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**JPC Research Note-06A**

# Tall Fescue Management Endophyte and Stocker Production

## Why does it matter?

Tall fescue is the most important perennial, cool-season forage in the southeastern USA.

Infection of tall fescue with an endophyte can cause animal health disorders due to ergot alkaloid production.

Removing the wild-type endophyte from tall fescue has led to poor plant persistence.

Friendly fungal endophytes have been selected to possibly overcome these two problems associated with managed tall fescue.



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## What was done?

'Jesup' tall fescue with 3 endophyte associations was planted:

- (1) endophyte free
- (2) 'Max-Q' endophyte
- (3) wild-type endophyte

Yearling Angus heifers grazed paddocks whenever forage was available from April 2002 to December 2004.

## What was found?

Seasonal differences in animal stocking rate and performance occurred. Wild-endophyte allowed greater stocking rate, because less forage was consumed. Heifer performance with 'Max-Q' was always greater than with wild-endophyte and sometimes greater than with endophyte-free.

Season	days	Stocking Rate (head/acre)			Performance (lb/head/day)		
		Free	Novel	Wild	Free	Novel	Wild
Winter	24	0.3	0.3	< 0.4	1.7	< 2.1	> 1.5
Spring	78	1.3	1.4	< 1.7	2.1	2.2	> 1.4
Summer	61	0.8	0.8	< 1.1	1.5	1.4	1.3
Autumn	60	1.0	1.0	< 1.2	1.2	1.4	> 0.9
Annual	223	0.9	0.9	< 1.1	1.7	1.8	> 1.3

Free is endophyte-free, Novel is 'Max-Q' infected, and Wild is wild-type.

*Further description of this research in:*

- (1) Proceedings of the Tall Fescue Toxicosis Workshop, 2003 and 2004 reports.
- (2) Franzluebbbers AJ, Stuedemann JA. 2006. Early pasture and cattle responses to nutrient source and tall fescue-endophyte association in the Southern Piedmont USA. Agriculture, Ecosystems and Environment (in press).

## What's the impact?

A friendly endophyte can improve animal performance to overcome toxicosis, but it remains to be seen if stand persistence can be retained.